

CLAIMS

What is claimed is:

- 5        1. A secure foreign enterprise print system, comprising:
  - a wireless telephonic logic;
  - a wireless network communication logic configured to communicate a print request to a wireless network web services provider via the wireless telephonic logic, the print request being related to a print item stored in a first enterprise and an image forming device located in a second enterprise;
  - a discovery logic configured to identify the image forming device;
  - an image forming device communication logic configured to communicate an image forming device data with the image forming device; and
  - an encryption logic configured to communicate one or more encryption data with one or more of, the image forming device and the wireless network web services provider.
- 10        2. The system of claim 1, where the wireless telephonic logic comprises a cellular telephone.
- 15        3. The system of claim 1, where the image forming device comprises a printer.
- 20        4. The system of claim 3, where the print request includes one or more of, a print item identifier, a user identifier, an encryption key, an image forming device model data, an image forming device capability data, an image forming device address, and a print queue identifier.
- 25        5. The system of claim 4, where the encryption key is the public key component of a public/private key pair that includes a public key component and a private key component.
- 30        6. The system of claim 1, where the image forming device communication logic is configured to communicate with the image forming device using one or more of, an IEEE 802.11 communication, an IEEE 802.15 communication, an infrared communication, and a Bluetooth communication.

7. The system of claim 1, where the image forming device data includes one or more of, a printer request, an encrypted encryption key, a decrypted encryption key, a print item identifier, an image forming device model data, an image forming device capability data, an image forming device address, and a print queue identifier.

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8. The system of claim 1, where the encryption logic is configured to generate a one time public/private key pair that includes a public key component and a private key component, to provide the public key component of the one time public/private key pair to the wireless network web services provider via the wireless network communication logic, and to provide the private key component of the one time public/private key pair to the image forming device via the image forming device communication logic.

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9. The system of claim 1, where the encryption logic is configured to provide a public key to the wireless network web services provider via the wireless network communication logic, to decrypt an encrypted session key associated with an encrypted print item into a decrypted session key, and to provide the decrypted session key to the image forming device.

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10. The system of claim 1, comprising:  
a user interface logic configured to facilitate selecting the print item from the first enterprise.

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11. A method, comprising:  
receiving a print item identifier that identifies a print item to process, where the print item is stored in a first enterprise;  
receiving an image forming device identifier that identifies an image forming device on which the print item is to be processed, where the image forming device is located in a second enterprise;  
providing a print request to a wireless network web services provider that has access to the first enterprise and the second enterprise; and  
providing an encryption service that facilitates encrypting the print item in the first enterprise and decrypting the print item in the image forming device.

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12. The method of claim 11, where the image forming device identifier includes one or more of, an image forming device address, an image forming device capability data, and an image forming device model data.

5 13. The method of claim 11, where the print request includes one or more of, a print item identifier, an encryption key, an image forming device model data, an image forming device address, an image forming device capability data, and a print queue identifier.

10 14. The method of claim 11, where providing an encryption service includes producing a one time public/private key pair that includes a public key component and a private key component, providing the public key component of the one time public/private key pair to the wireless network web services provider, and providing the private key component of the one time public/private key pair to the image forming device.

15 15. The method of claim 11, where providing an encryption service includes providing a public key to the wireless network web services provider, decrypting a session key associated with print item encrypted in the first enterprise where the encryption is based, at least in part, on the public key, and providing the decrypted session key to the image forming device.

20 16. The method of claim 11, where the image forming device comprises a printer.

17. A computer-readable medium storing processor executable instructions operable to perform a method, the method comprising:

25 receiving a print item identifier that identifies a print item to process, where the print item is stored in a first enterprise;

receiving an image forming device identifier that identifies an image forming device on which the print item is to be processed, where the image forming device is located in a second enterprise;

30 providing a print request to a wireless network web services provider that has access to the first enterprise and the second enterprise; and

providing an encryption service that facilitates encrypting the print item in the first enterprise and decrypting the print item in the image forming device.

18. An image forming system, comprising:
  - a network communication logic configured to communicate with a web services provider;
  - a wireless communication device logic configured to communicate with a wireless communication device and to employ the web services provider for print services associated with producing an image from a print item stored in a first enterprise, where the image forming system is located in a second enterprise;
  - an encryption logic configured to facilitate providing security for the print item as it is communicated from the first enterprise to the image forming system via the web services provider; and
  - an image forming logic configured to produce the image from the print item.
19. The system of claim 18, where the network communication logic is configured to communicate via the public Internet.
20. The system of claim 18, where the network communication logic is configured to request an encrypted print item from a print queue associated with the web services provider.
21. The system of claim 18, where the network communication logic is configured to receive an encrypted print item from a print queue associated with the web services provider.
22. The system of claim 18, where the wireless communication device logic is configured to communicate an image forming device data with the wireless communication device.
23. The system of claim 22, where the image forming device data includes one or more of, a printer request, an encrypted encryption key, a decrypted encryption key, a print item identifier, an image forming device model data, an image forming device capability data, an image forming device address, and a print queue identifier.
24. The system of claim 18, where the wireless communication device logic communicates with the wireless communication device using one or more of an IEEE 802.11 communication, an IEEE 802.15 communication, an infrared communication, and a Bluetooth communication.

25. The system of claim 18, where the encryption logic is configured to generate a one time public/private key pair that includes a public key component and a private key component, to provide the public key component of the one time public/private key pair to the wireless communication device, and to decrypt an encrypted print item received from the web services provider based, at least in part, on the private key component of the one time public/private key pair.

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26. The system of claim 18, where the encryption logic is configured to parse an encrypted session key out of an encrypted print item received from the web services provider, to provide the encrypted session key to the wireless communication device, to receive a decrypted session key from the wireless communication device, and to decrypt the encrypted print item based, at least in part, on the decrypted session key.

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15 27. The system of claim 18, where the image forming device is a printer.

28. The system of claim 18, where the wireless communication device is a cellular telephone.

20 29. A method, comprising:  
receiving into an image forming device, from a wireless communication device, a request to produce an image from an encrypted print item stored in a print queue provided by a web services provider;

25 communicating with the web services provider to have the encrypted print item transmitted to the image forming device;

receiving the encrypted print item;

decrypting the encrypted print item into a decrypted print item; and

forming an image from the decrypted print item.

30 30. The method of claim 29, where decrypting the encrypted print item comprises:  
retrieving an encrypted session key from the encrypted print item;  
providing the encrypted session key to the wireless communication device for decryption;

receiving a decrypted session key from the wireless communication device; and  
decrypting the encrypted print item into the decrypted print item based, at least in part, on the decrypted session key.

5       31. The method of claim 29, where, in response to receiving the request to produce an image from an encrypted print item, the method includes:

generating a one time public/private key pair that includes a public key component and a private key component; and

10      providing the public key component of the one time public/private key pair to the wireless communication device.

32. The method of claim 31, where decrypting the encrypted print item includes decrypting the encrypted print item based, at least in part, on the private key component of the one time public/private key pair.

15      33. A computer-readable medium storing processor executable instructions operable to perform a method, the method comprising:

20      receiving into an image forming device, from a wireless communication device, a request to produce an image from an encrypted print item stored in a print queue provided by a web services provider;

25      communicating with the web services provider to have the encrypted print item transmitted to the image forming device;

receiving the encrypted print item;

decrypting the encrypted print item into a decrypted print item; and

forming an image from the decrypted print item.

34. A secure foreign enterprise print system, comprising:

a cellular telephone comprising:

30      a wireless network communication logic configured to communicate a print request related to a print item that is stored in a first enterprise and a printer that is located in a second enterprise, where the print request is communicated to a wireless network web services provider via cellular telephony;

a discovery logic configured to identify the printer that the secure foreign enterprise print system will employ to print the print item;

5           a printer communication logic configured to communicate a printer data with the printer, where the print request may be configured based, at least in part, on the printer data; and

10           a cellular telephone encryption logic configured to facilitate providing security for the print item as it travels from the first enterprise to the printer, where providing security is facilitated by communicating an encryption data with one or more of, the printer, and the wireless network web services provider;

and

a printer, comprising:

15           a network communication logic configured to communicate with the wireless network web services provider;

20           a wireless communication device logic configured to communicate with the cellular telephone;

25           a printer encryption logic configured to facilitate providing security for the print item by communicating the encryption data with the cellular telephone; and

30           an image forming logic configured to produce a printable image from the print item.

35.       The system of claim 34, where the network communication logic is configured to request an encrypted print item from a print queue associated with the web services provider.

36.       The system of claim 34, where the network communication logic is configured to receive an encrypted print item from a print queue associated with the web services provider.

40       37.      A secure foreign enterprise print system, comprising:

45           a wireless network communication logic configured to communicate via cellular telephony with one or more wireless communication devices;

50           a controller logic configured to receive a request to provide print services for a print item stored on a first enterprise and, in response to receiving the request to provide print services, generating a request for the print item, identifying a gateway to the first enterprise, and transmitting the request for the print item to the gateway;

a print queue data store configured to store one or more encrypted print items, where the print queue data store is organized, at least in part, on a per wireless communication device user basis; and

5           a print queue logic configured to receive an encrypted print item from the first enterprise, to store the encrypted print item in the print queue data store, to receive a request for the encrypted print item from an image forming device in a second enterprise, and to transmit the encrypted print item to the image forming device.

10         38. The system of claim 37, where the one or more wireless communication devices comprise cellular telephones.

15         39. The system of claim 37, further comprising:

          an enterprise gateway relationship data store configured to store data that relates a wireless communication device user with an enterprise gateway; and

15         where the controller logic is configured to identify the gateway to the first enterprise based, at least in part, on data stored in the enterprise gateway relationship data store.

20         40. The system of claim 39, where the enterprise gateway relationship data store comprises a table.

25         41. A secure foreign enterprise print system, comprising:

          a cellular telephone comprising:

            a first wireless network communication logic configured to communicate a print request related to a print item that is stored in a first enterprise and a printer that is located in a second enterprise, where the print request is communicated to a wireless network web services provider via cellular telephony;

            a discovery logic configured to identify the printer that the secure foreign enterprise printing system will employ to print the print item;

30         a printer communication logic configured to communicate a printer data with the printer, where the print request may be configured based, at least in part, on the printer data; and

            a cellular telephone encryption logic configured to facilitate providing security for the print item as it travels from the first enterprise to the printer where providing

security is facilitated by communicating one or more encryption data with one or more of, the printer and the wireless network web services provider;

a printer, comprising:

5           a network communication logic configured to communicate with the wireless network web services provider;

              a wireless communication device logic configured to communicate with the cellular telephone;

10           a printer encryption logic configured to facilitate providing security for the print item by communicating one or more encryption data with the cellular telephone; and

              an image forming logic configured to produce a printable image from the print item;

15           and

              a web services provider comprising:

              a second wireless network communication logic configured to communicate via cellular telephony with the cellular telephone;

20           a controller logic configured to receive a request to provide print services and, in response to receiving the request to provide print services, generating a request for the print item, identifying a gateway to the first enterprise, and transmitting the request for the print item to the gateway;

25           a print queue data store configured to store one or more encrypted print items, where the print queue data store is organized, at least in part, on a per cellular telephone user basis; and

              a print queue logic configured to receive an encrypted print item from the first enterprise, to store the encrypted print item in the print queue data store, to receive a request for the encrypted print item from the printer, and to transmit the encrypted print item to the printer.

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42.          A secure foreign enterprise print system, comprising:

              an enterprise gateway logic configured to receive a request for a print item from a web services provider, where the request for a print item includes a print item identifier and

an encryption data, in response to receiving the request for the print item, to generate a server request for the print item, and to transmit the server request for the print item to a print server logic according to a print server protocol;

and

5           a print server logic configured to receive the server request for the print item, to acquire the print item from a server, process the print item into a processed print item, and to provide the processed print item to a print queue associated with the web services provider.

10          43.     The system of claim 42, where the print server comprises an MEP server.

15          44.     The system of claim 42, where the print server protocol comprises PSI.

15          45.     The system of claim 42, where the server comprises one or more of, an email server, an image server, a message server, and a file server.

15          46.     The system of claim 42, where processing the print item into a processed print item includes one or more of, compressing the print item, content transforming the print item, and encrypting the print item based, at least in part, on the encryption data.

20          47.     A secure foreign enterprise print system, comprising:

25            a cellular telephone, comprising:

              a first wireless network communication logic configured to communicate a print request related to a print item that is stored in a first enterprise and a printer that is located in a second enterprise, where the print request is communicated to a wireless network web services provider via cellular telephony;

              a discovery logic configured to identify the printer that the secure foreign enterprise printing system will employ to print the print item;

              a printer communication logic configured to communicate a printer data with the printer, where the print request may be configured based, at least in part, on the printer data; and

30            a cellular telephone encryption logic configured to facilitate providing security for the print item as it travels from the first enterprise to the printer where providing

security is facilitated by communicating one or more encryption data with one or more of, the printer and the wireless network web services provider;

a printer, comprising:

5            a network communication logic configured to communicate with the wireless network web services provider;

              a wireless communication device logic configured to communicate with the cellular telephone;

10            a printer encryption logic configured to facilitate providing security for the print item by communicating one or more encryption data with the cellular telephone; and

15            an image forming logic configured to produce a printable image from the print item;

15            a web services provider, comprising:

              a second wireless network communication logic configured to communicate via cellular telephony with the cellular telephone;

20            a controller logic configured to receive a request to provide print services and, in response to receiving the request to provide print services, generating a request for the print item, identifying a gateway to the first enterprise, and transmitting the request for the print item to the gateway;

              a print queue data store configured to store one or more encrypted print items, where the print queue data store is organized, at least in part, on a per cellular telephone user basis; and

25            a print queue logic configured to receive an encrypted print item from the first enterprise, to store the encrypted print item in the print queue data store, to receive a request for the encrypted print item from the printer, and to transmit the encrypted print item to the printer;

              and

30            a home enterprise system, comprising:

              an enterprise gateway logic configured to receive a request for a print item from a web services provider, where the request for a print item includes a print item identifier and an encryption data, in response to receiving the request for the print

item, to generate a server request for the print item, and to transmit the server request for the print item to a print server logic according to a print server protocol;  
and

5           a print server logic configured to receive the server request for the print item, to acquire the print item from a server, to process the print item into a processed print item, and to provide the processed print item to a print queue associated with the web services provider.

10          48.       A data packet for transmitting data between one or more secure foreign enterprise printing system logics or secure foreign enterprise printing method actions, comprising:

15           a first field that stores an encryption data; and

              a second field that stores a print item identifier, where a print item associated with the print item identifier will be encrypted based, at least in part, on the encryption data, and where the print item is located on a first enterprise, and where the print item will be printed on a printer located in a second enterprise.